

(2.) *Frosts*.—Slight frosts have been very generally reported on the following dates: 1st, Michigan; 2d, New York, Ohio, Pennsylvania and Vermont; 10th, Iowa; 11th, Iowa; 12th, Michigan and Nebraska; 13th, Ohio; 14th, Pennsylvania and Vermont; 15th, Maryland; 16th, Maryland; 24th, Vermont; 25th, Vermont; 27th, Vermont.

IV.—PRECIPITATION.

(1.) *In general*.—The general distribution of rain-fall for the month will be apparent from the accompanying map No. III, from which it will be seen that a remarkable excess has been experienced in Minnesota and the adjacent country, as also in Nova Scotia and New Brunswick. The unequal distribution of the rain-fall, owing to the peculiar local nature of the storms of June, gives rise to the existence of innumerable small regions of from 10 to 100 miles in diameter over which little or no rain has fallen in comparison with that experienced in the country immediately adjoining. Besides these smaller areas, larger ones have existed, as shown on the map, in eastern Texas, southwestern Missouri, the lower Ohio valley, the Middle States, Upper Canada and the lower St. Lawrence valley, in all of which less than two inches of rain have fallen. The rain-fall in Minnesota and Nebraska is generally remarked upon as the heaviest ever known to have occurred. That on the summit of Mt. Washington (13.44inche,) exhibits as usual the great fluctuations of the climate of that spot.

(2.) *Special Droughts*.—The local droughts that have occurred during the month have been specially commented upon as threatening the future harvest in New Jersey. Some small sections of New York and Virginia, southern Ohio and Indiana, and eastern Texas.

(3.) *Special Rains*.—Among the rain-falls remarkable for their quantity that have been particularly reported during the month, have been the following: on the 8th, at Sandwich, Illinois; 9th, Plattsmouth, Nebraska; 14th, Fort Gibson, Indian Territory and Plattsmouth, Nebraska; 24th, Indianola, Texas.

(4.) *Number of cloudy days*.—The number of days wholly cloudy as reported from the Signal Service Stations was least in the eastern portion of North Carolina, in the interior of Texas and in Colorado, New Mexico and Kansas, from all of which sections but one day entirely cloudy has been reported. Less than five cloudy days are reported from the Western Gulf coast, the Ohio and lower Mississippi valleys. From five to ten days are reported from the Middle Atlantic States and Iowa. From ten to fifteen cloudy days, and occasionally more, are reported from New England, Lakes Ontario, Huron and Superior, and in Minnesota.

(5.) *Number of rainy days*.—The number of days on which some, even the slightest amount of rain fell at a given station, will, if combined with the quantity of rain that has fallen, give a general indication of the character of the individual rain-storms as to their gentleness or severity. Thus, over those portions of the country that have experienced more than six inches of rain, the average number of rainy days has been—on the Gulf coast, 10; in the Northwest, 18.

The average number of rainy days in districts over which the rain-fall has been from two to four inches, has been—in the Southwest, 6; on the Atlantic coast, 10; in the Middle Atlantic States, 11; and on the Middle Atlantic coast, 9.

From two to five light local showers have generally been reported from those sections of the country in which less than two inches of rain has fallen, except in the Lower Lake region, where from nine to twelve showers and sprinkles have brought only one or two inches of rain.

If the number of rainy or cloudy days is compared with the map of storm-tracks for the month, it will be found that in general the region of greatest rain or cloud frequency on the one hand accompanies the belt of storm-tracks lying, of course, somewhat to the southward thereof; and, on the other hand, these regions cover that portion of the South Atlantic and Eastern Gulf coast over which masses of moist air have been pushed north and west up over the high land in the interior.

V.—RELATIVE HUMIDITY.

The monthly averages of relative humidity, show a very uniform distribution of this element during the month. The lowest average is as usual found on the Western Plains, where the mean for the month, after correction for the altitude of the stations, varies between 25 and 45 per cent. The average humidity for the Ohio valley is from 55 to 60 per cent; that of the South Atlantic coast and Upper Lake region is 75 per cent. The highest average is 88 per cent. on Mt. Washington and at Cape May, and, in general, the humidity at the stations on the immediate Middle Atlantic coast is 10 to 15 per cent higher than at stations an hundred miles in the interior.

VI.—WINDS.

(1.) *In general.*—The prevailing winds of the month are shown by the arrows on map No. 2, from which it appears that southwest winds have prevailed in the central New Jersey coast, central Pennsylvania, Ohio, Illinois and southward to the Gulf; northwest and southwest winds over New England; west and east winds over the Lower Lake region; south and east winds over the Upper Lakes and the Northwest, and southerly winds in Texas, Louisiana and Kansas.

(2.) *Special strong winds.*—The majority of winds above thirty-five or forty miles hourly velocity have been reported from stations north of the 35th parallel, and west of the 85th meridian. The principal exception to this statement has been the velocity of fifty miles reported from Long Branch. The highest velocity on Mt. Washington was 108 miles.

(3.) *Total movement of the air.*—The total movement of the air irrespective of direction has as usual been least at stations in northern Louisiana, and in the Atlantic States lying immediately among or to the eastward of the Blue Ridge. The average of six stations representing these regions, gives for the total movement of the air 2,800 miles. For the immediate South Atlantic coast, four stations, 5,000 miles; for the Middle Atlantic coast, seven stations, 7,400 miles; for the New England coast, four stations, 5,500 miles; for the extreme Northwest, six stations, 7,100 miles; for Pike's Peak, 15,700 miles; for San Francisco, 9,500 miles; for San Diego, 3,900 miles; for Portland, Oregon, 2,800 miles.

VII.—VERIFICATION OF PREDICTIONS.

The critical comparison of the regular tri-daily Probabilities with the weather maps for the succeeding day show that, on the average of the entire country, 86.3 per cent. of the predictions have been verified.